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a center portion with a substantially planar peripheral portion surrounding the center portion;

the center portion having a concave first lower surface and a convex first upper surface,

C
B
incl.
the device having two stable equilibrium positions wherein a first stable equilibrium position comprises the first lower surface having a concave shape and the first upper surface having a convex shape and a second stable equilibrium position comprises the first upper surface now having a concave shape and the first lower surface now having a convex shape,

whereby manual manipulation of the device inverts the surfaces between the two stable equilibrium positions,

wherein the second equilibrium position provides a shape that is substantially the same as the shape of the device in the first equilibrium position and the device will hold the second equilibrium position until an external force causes it to return to the first equilibrium position.

REMARKS

In the Office Action dated May 8, 2001, the time for response to which was reset in the Office Action dated July 20, 2000, claims 1-17 are pending and all claims are rejected. Applicant requests reconsideration for at least the reasons discussed herein. The above amendment is submitted to further clarify the present invention.

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Applicant appreciates the courteous telephone interview extended by Examiners Cegielnik and Muir to his attorney on July 31, 2001. During the interview the present invention was discussed and contrasted to the cited references, Schuster and Davis, the substance of which is included in the remarks below. Suggestions were made for further clarification of the invention. Such suggestions are incorporated into amended claim 1.

The present invention is directed to and claims an amusement and stress relief device formed of a flexible, resilient polymeric material having a center portion with a concave/convex shape, wherein the device has **two stable equilibrium positions** wherein a first equilibrium position comprises a first surface having a concave shape and a second surface having a convex shape and a second equilibrium position is the reverse or inverse of the first equilibrium position and comprises the second surface having a concave shape and the first surface having a convex shape, whereby manual manipulation of the device inverts the first and second surfaces between the two stable equilibrium positions, as set forth in claim 1. In other words, the second stable equilibrium position is the reverse or inverse of the first stable equilibrium position. The device of the present invention **requires** manual manipulation to be moved from one stable equilibrium position to the other, no matter which stable equilibrium position it is in. Further, the two equilibrium positions have substantially the same shape or appearance.

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In the embodiment set forth in claim 8, the device has a domed peak formed in the center portion, the peak having a height h_p relative to a plane containing the peripheral portion, and the ratio of h_p to d is **not greater than** about $1/3$.

Claims 1-17 are rejected under 35 U.S.C. §112, second paragraph. It is alleged that the term "convex/concave shape" is not clear. Applicant disagrees. Such term can be found in a standard dictionary. However, this language has been amended as discussed in the telephone conference to add further detail about the structure.

Claim 1 is rejected under 35 U.S.C. §102(b) and claims 2-17 are rejected under 35 U.S.C. §103(a) over newly cited Schuster (US 3,672,380). Schuster discloses a cleaning device having a rubber cap that is used to confine the liquid jet and assist in cleaning. The examiner asserts that the device has two stable equilibrium positions (referring to col. 2, lines 73-75). However, col. 2, lines 73-75 state:

By properly pressing downward or upward against the cup alternately, additional pressure or suction may be formed on the area being cleaned for additional actions.

It is not seen how this language describes or suggests that the device has two stable equilibrium conditions. Indeed, by looking at the drawings, one of ordinary skill in the art would readily conclude that such action of pressing downward or upward against the cup would not result in any equilibrium position, but that the cup would return to its original shape as soon as the pressure is relaxed.

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Further, there is no teaching or suggestion in Schuster that external force should be applied to the rubber cup to invert it into a second stable position. It is not seen how one of ordinary skill in the art would find it obvious to invert the rubber cup of Schuster. Indeed, such an inversion would make the rubber cup totally ineffective for its intended purpose.

Still further, there is no teaching or suggestion in Schuster for a device having two stable equilibrium conditions wherein the second equilibrium position provides a shape that is **substantially the same** as the shape of the device in the first equilibrium position. Even if one were to invert the rubber cup of Schuster, the inverted shape would be substantially **dissimilar** to the original shape.

On the contrary, in the device of the present invention, the first equilibrium position has substantially the same shape as the second equilibrium position, as illustrated in FIG. 2 by the dashed line. To reestablish the original equilibrium position requires pressing inwardly on the second surface to reinvert the device from the second equilibrium position to its original equilibrium position. Because both positions are stable, it makes no difference in which position the device is - the device looks substantially the same.

Samples of the device of the present invention were submitted previously to aid the examiner. As can be seen, there is no difference between the sample device in the first or the second equilibrium position. That is not true for the device of Schuster.

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Claims 2-17 are patentable over Schuster for at least the reasons discussed above with respect to claim 1.

With respect the particular dimensions set forth in claims 2-8, the polymeric material as set forth in claims 9 and 16, the surfaces having a texture as set forth in claims 10-13, and the scent being added as set forth in claim 14, the examiner concludes that such would have been obvious in view of Schuster "for the purpose of making the device more amusing and interesting."

It is not seen where there is any suggestion that one of ordinary skill in the art would desire to make the rubber cup of the Schuster cleaning device *more amusing and interesting*. Indeed, the specific dimensions set forth in claims 2-8 and the polymeric material set forth in claims 9 and 16 are preferred dimensions and materials for making the claimed stress relief disc function to provide two stable positions when manipulated manually and provide the tactile feedback. No suggestion is made in Schuster for a device having the claimed dimensions. Nor is there any suggestion that the Schuster device provide two stable positions when manipulated manually and provide the tactile feedback. Indeed, the function of Schuster's rubber cup would suggest a rubber material having dimensions such that the cup would return to its original shape when applied pressure is relaxed. Because the structure and function of the Schuster device is so different, it is not seen how it would have been obvious to one of ordinary skill in the art to use the claimed dimensions and

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materials for Applicant's stress relief disc, which has a totally different structure and function.

Regarding the textured surface as set forth in claims 10-13 or the scent added to the material as set forth in claim 14, there is suggestion in Schuster for any reason to use a textured surface or a scent for the rubber cup. Again, it is not seen how it would have been obvious to one of ordinary skill in the art to use a textured surface on or apply a scent to the rubber cup of Schuster. There is no suggestion whatsoever that the Schuster device should be *more amusing and interesting*. That suggestion appears to be total conjecture by the examiner and unsupported by anything of record or any scientific logic.

Thus, it is not seen how the present invention would have been obvious to one of ordinary skill in the art in view of Schuster.

During the telephone conference, Examiner Muir mentioned Davis. Davis describes a jumping toy consisting of a hemispherical body made of fairly stiff and hard rubber. Thus, Davis *fails* to teach or suggest a device having a center portion with a **substantially planar peripheral portion** surrounding the center portion, as claimed herein.

Further, Davis states (col. 1, lines 6-12) that"

[t]o operate the toy one simply turns it inside out and places it rim down on a flat surface. The toy will shortly start to return, at first slowly

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and then with increasing rapidity, to its undeformed shape. At a critical midway point the toy suddenly and completely snaps back into shape.

Thus, the jumping toy of Davis **automatically** returns to its undeformed shape. The deformed shape is not a **stable equilibrium** position but always has movement to return to the undeformed shape, even though the movement is slowly (and perhaps barely perceptively) at first.

Thus, Davis also **fails** to teach or suggest a device wherein the second equilibrium position provides a shape that is substantially the same as the shape of the device in the first equilibrium position and the device will hold the second equilibrium position until an external force causes it to return to the first equilibrium position.

It is not seen how the present invention would have been obvious to one of ordinary skill in the art in view of Davis. Davis fails to teach or suggest a plastic device that will indefinitely hold either of two stable equilibrium positions that are structurally substantially mirror images of each other.

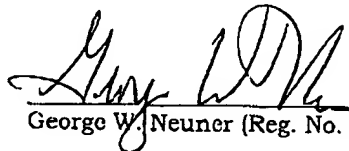
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In view of the amendment, the interview and the discussion above, it is respectfully submitted that the present application is in condition for allowance. An early reconsideration and notice of allowance are earnestly solicited.

Respectfully submitted,

Date:

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Appendix showing details of amendment

1. An amusement and stress relief device formed of a flexible, resilient polymeric material consisting essentially of ~~and comprising~~:
a center portion ~~;~~ and with a substantially planar peripheral portion surrounding the center portion;
the center portion having a concave ~~/convex shape~~ first lower surface and a convex first upper surface,
the device having two stable equilibrium positions wherein a first stable equilibrium position comprises ~~a first~~ the first lower surface having a concave shape and ~~a second~~ the first upper surface having a convex shape and a second stable equilibrium position comprises the ~~second~~ first upper surface now having a concave shape and the first lower surface now having a convex shape,
whereby manual manipulation of the device inverts the ~~first and second~~ surfaces between the two stable equilibrium positions,
wherein the second equilibrium position provides a shape that is substantially the same as the shape of the device in the first equilibrium position and the device will hold the second equilibrium position until an external force causes it to return to the first equilibrium position.